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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/921,584	08/06/2001	Toshihiko Aoki	110311	9672

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EXAMINER

ROSENBERGER, RICHARD A

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 09/921,584	Applicant(s) AOKI, TOSHIHIKO	
	Examiner Richard A Rosenberg	Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5 and 8 is/are allowed.
- 6) ☒ Claim(s) 9, 11-17, 19 is/are rejected.
- 7) ☒ Claim(s) 6, 7, 10 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 9, 11-17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sprague et al (US 4,409,479) in view of Matsuura (US 5,889,280) and Leuchter (US 4,339,198).

Sprague et al shows an optical displacement measuring apparatus with a scale (18) with optical gratings formed thereon and a sensor head (10) including a photosensitive unit for optically detecting relative movement between the sensor head and the scale to provide a displacement signal. Sprague et al shows in figure 2 the sensor comprising a substrate and two photosensitive arrays (15, 15' and 17, 17') arranged to provide displacement signals along two axes. It would have been obvious to use this type of known construction for the photosensitive unit of devices such as shown by Sprague et al.

Leuchter teaches that it is known to print a grid on a flexible substrate so it can be placed on a curved surface (column 1, lines 43-51), teaching that this produces a accurate curved grating. It would have been obvious to use this known manner of making curved detection systems by forming the elements on flexible substrates and curving them to meet the needs at hand in particular applications

because, as taught by Leuchter, this can produce “extremely close tolerance ... while bypassing the extremely complex fabrication” of forming curved elements in place. Those in the art could choose appropriate flexible materials.

The use of any known light source would have been obvious; electroluminiscent light sources are known light sources.

3. It is noted that there is a typographical error in claim 6 as submitted in the paper filed 6 January 2004, in line 1 of that claim, “claims” should read “claim 5”; see the earlier version of the claims submitted 6 August 2001. Thus claim 6 and claim 7, dependent thereon, are objected to as not properly setting forth its dependency, although the record does make clear what was intended.

4. The remarks filed 6 January 2004 have been considered. the art of record does not show the construction details of the sensor arrays as in independent claim 1 as amended, independent claims 5 or claims 10 and 18. Thus claims 1-5 and 8 are allowable, and claims 6 and 7 would be allowable were the typographical error in the dependency noted above were corrected. Claims 10 and 18 are objected to as being dependent upon unallowed claim 9 but would be allowable if rewritten in independent form including all of the limitations of their parent claim.

5. The Leuchter reference shows using a flexible scale in a displacement type apparatus in which a photosensitive unit moves across the scale to indicate displacement. The statement in the remarks that the instrument of the Leuchter reference "is not related to a transducer instrument with a scale-sensor structure" (page 8, lines 12-13) is not correct, it is a transducer instrument with a scale-sensor structure.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

7. Papers related to this application may be submitted to Group 2800 by facsimile transmission. The faxing of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (15 November 1989). The fax number is (703) 872-9306

Any inquiry concerning this communication or earlier communications from the examiner should be directed to R. A. Rosenberger whose telephone number is (571) 272-2428.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.

R. A. Rosenberger
2 April 2004



Richard A. Rosenberger
Primary Examiner